

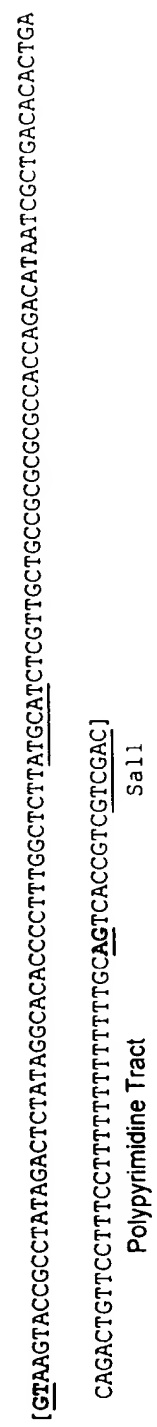
5' Splice Junction

NsiI +51 (relative to splice junction)

[GTAAGTACCGCCTATAGACTCTATAGGCACCCCCTTTGGCTCTTATGCAT]_____



FIG. 1C: Deletion Mutant pCON3 Intron: 132 bp



1 ctgcagtga taataaaatg tgtgtttgtc cgaaatacgc gttttgagat ttctgtcgcc
61 gactaaattc atgtcgcgcg atagtgggtg ttatcgccga tagagatggc gatattggaa
121 aaatcgatat ttgaaaatat ggcatattga aaatgtcgcc gatgtgagtt tctgtgtaac
181 tgatatcgcc atttttccaa aagtgtttt tgggcatacg cgatatctgg cgatacggct
241 tatatcgttt acgggggatg gcgatagacg actttggcga cttggggcat tctgtgtgtc
301 gcaaatatcg cagtttcgat ataggtgaca gacgatatga ggctatatcg ccgatagagg
361 cgacatcaag ctggcacatg gccaatgcat atcgatctat acattgaatc aatattggca
421 attagccata ttagtcattg gttatatagc ataaatcaat attggctatt ggccattgca
481 tacgttgtat ctatatcata atatgtacat ttatattggc tcatgtccaa tatgaccgcc
541 atgttgacat tgattattga ctagtatta atagtaatca attacggggg cattagttca
601 tagcccatat atggagtcc gcgttacata acttacggta aatggcccgc ctctgacccg
661 cccaaacgacc cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata
721 gggactttcc attgacgtca atgggtggag tatttacggg aaactgccc cttggcagta
781 catcaagtgt atcatatgcc aagtcgggcc ccctattgac gtcaatgacg gtaaatggcc
841 cgcttgccat tatgcccagt acatgacctt acgggacttt cctacttggc agtacatcta
901 cgtattagtc atcgctatta ccattggtgat gcggttttgg cagtacacca atgggcgtgg
961 atagcgggtt gactcacggg gatttccaag tctccacccc attgacgtca atgggagttt
1021 gttttggcac caaaatcaac gggactttcc aaaatgtcgt aataacccc cccggtgac
1081 g⁺caaatgggc ggtaggcgtg tacggtggga ggtcta⁺tata agcagagctc gtttagtgaa
1141 ccg⁺tcagatc gcctggagac gccatccacg ctgttttgac ctccatagaa gacaccggga
1201 ccgatccagc ctccgcggcc gggaacggtg cattggaacg cggattcccc gtgccaagag
1261 tgacGTAAGT ACCGCCTATA GACTCTATAG GCACACCCCT TTGGCTCTTA TGCATGCTAT
1321 ACTGTTTTTG GCTTGGGGCC TATACACCCC CGCTCCTTAT GCTATAGGTG ATGGTATAGC
1381 TTAGCCTATA GGTGTGGGTT ATTGACCATT ATTGACCACT CCCCTATTGG TGACGATACT
1441 TTCCATTACT AATCCATAAC ATGGCTCTTT GCCACAATA TCTCTATTGG CTATATGCCA
1501 ATACTCTGTC CTTGAGAGAC TGACACGGAC TCTGTATTTT TACAGGATGG GGTCCCATTT
1561 ATTATTTTACA AATTCACATA TACAACAACG CCGTCCCCCG TGCCCGCAGT TTTTATTAAA
1621 CATAGCGTGG GATCTCCACG CGAATCTCGG GTACGTGTTT CGGACATGGG CTCTTCTCCG
1681 GTAGCGGCGG AGCTTCCACA TCCGAGCCCT GGTCCCATGC CTCCAGCGGC TCATGGTCGC
1741 TCGGCAGCTC CTGCTCCTA ACAGTGGAGG CCAGACTTAG GCACAGCACA ATGCCACCA
1801 CCACCAGTGT GCCGCACAAG GCCGTGGCGG TAGGGTATGT GTCTGAAAAT GAGCTCGGAG
1861 ATTGGGCTCG CACCGTGACG CAGATGGAAG ACTTAAGGCA GCGGCAGAAG AAGATGCAGG
1921 CAGCTGAGTT GTTGATTCT GATAAGAGTC AGAGGTAAC CCCGTTGCGG TGCTGTAAAC
1981 GGTGGAGGGC AGTGTAGTCT GAGCAGTACT CGTTGCTGCC GCGCGGCCA CCAGACATAA
2041 TAGCTGACAG ACTAACAGAC TGTTCCCTTC CATGGGTCTT TTCTGCAGtc accgtccttg
2101 acacgatgga gtccctctgcc aagagaaag⁺a tggaccctga taatcctgac gagggccctt
2161 cctccaaggt

Enhancer Region
(~600 - ~1081)

Pol II Promoter
(1081 - 1143)

Exon 1 (5' UTR)
(1144 - 1264)

Intron A
(1265 - 2088)

Exon 2 (5' UTR,
Start of Tr.)
(2089 -)

FIG. 2

Deletions Made Within Intron A of CMV IE1

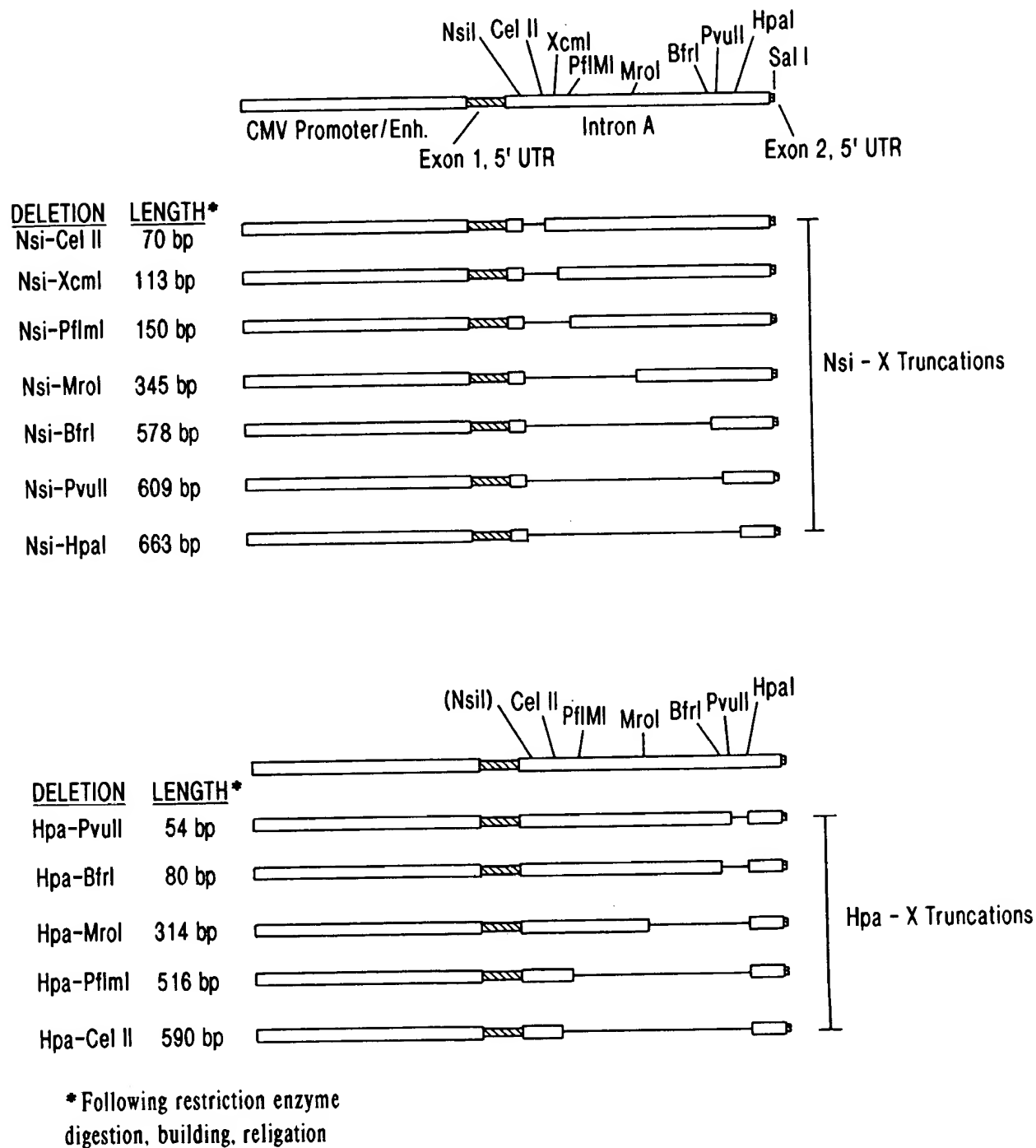
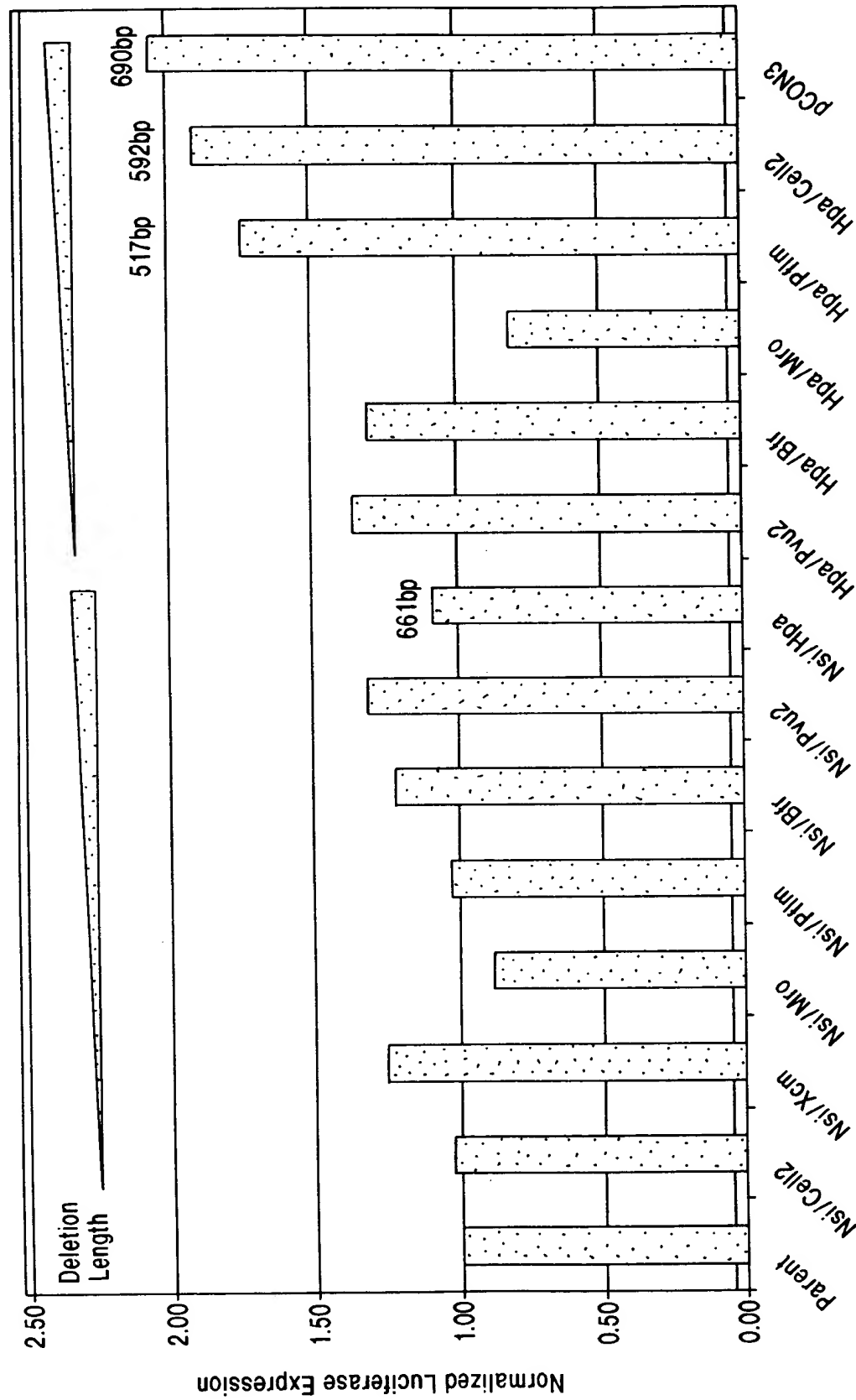


FIG. 3

Intron A Internal Deletion Mutants
(Transiently-Transfected 293 cells)



Construct I.D.

FIG. 4

1. Wild Type Rabbit β -Globin Sequence

GTTGGTATCCTTTTTACAGCACAACTTAATGAGACAGATAGAACTGGTCTTGTAGAAACA
Splice Donor

GAGTAGTCGCCTGCTTTTCTGCCAGGTGTCTGACTTCTCTCCCCTGGGCTGTTTTCATTTTCTCAG
Branch Pt. Polypyrimidine Tract

FIG. 5A

2. Optimized Rabbit β -Globin Sequence

GTAAGTATCCTTTTTACAGCACAACTTAATGAGACAGATAGAACTGGTCTTGTAGAAACA
Splice Donor

GAGTAGTCGCCTGCTTTTCTGCCAGGTACTAACTTCTCTCCCCTCTCCTCTTTTTCTTTTTCTGCAG
Branch Pt. Polypyrimidine Tract

FIG. 5B

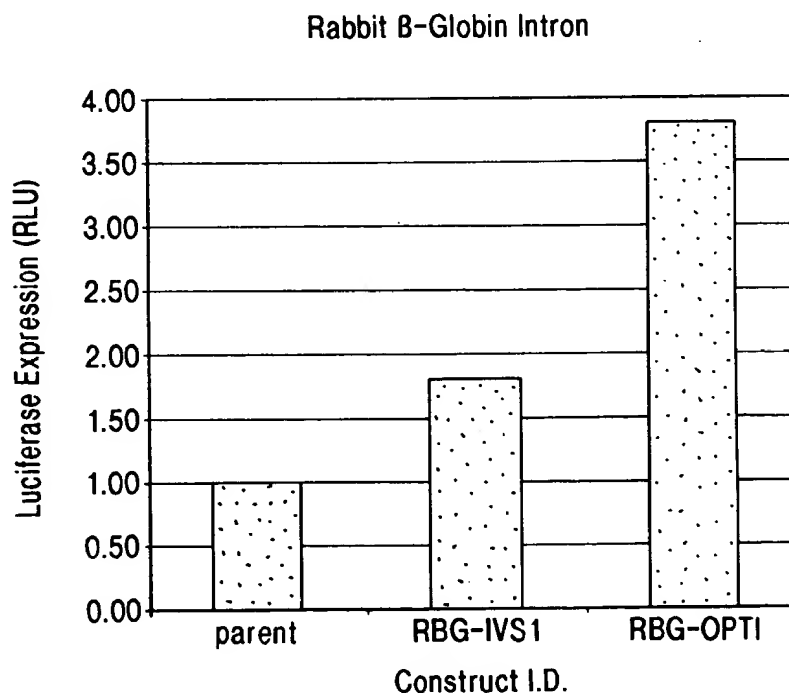


FIG. 6

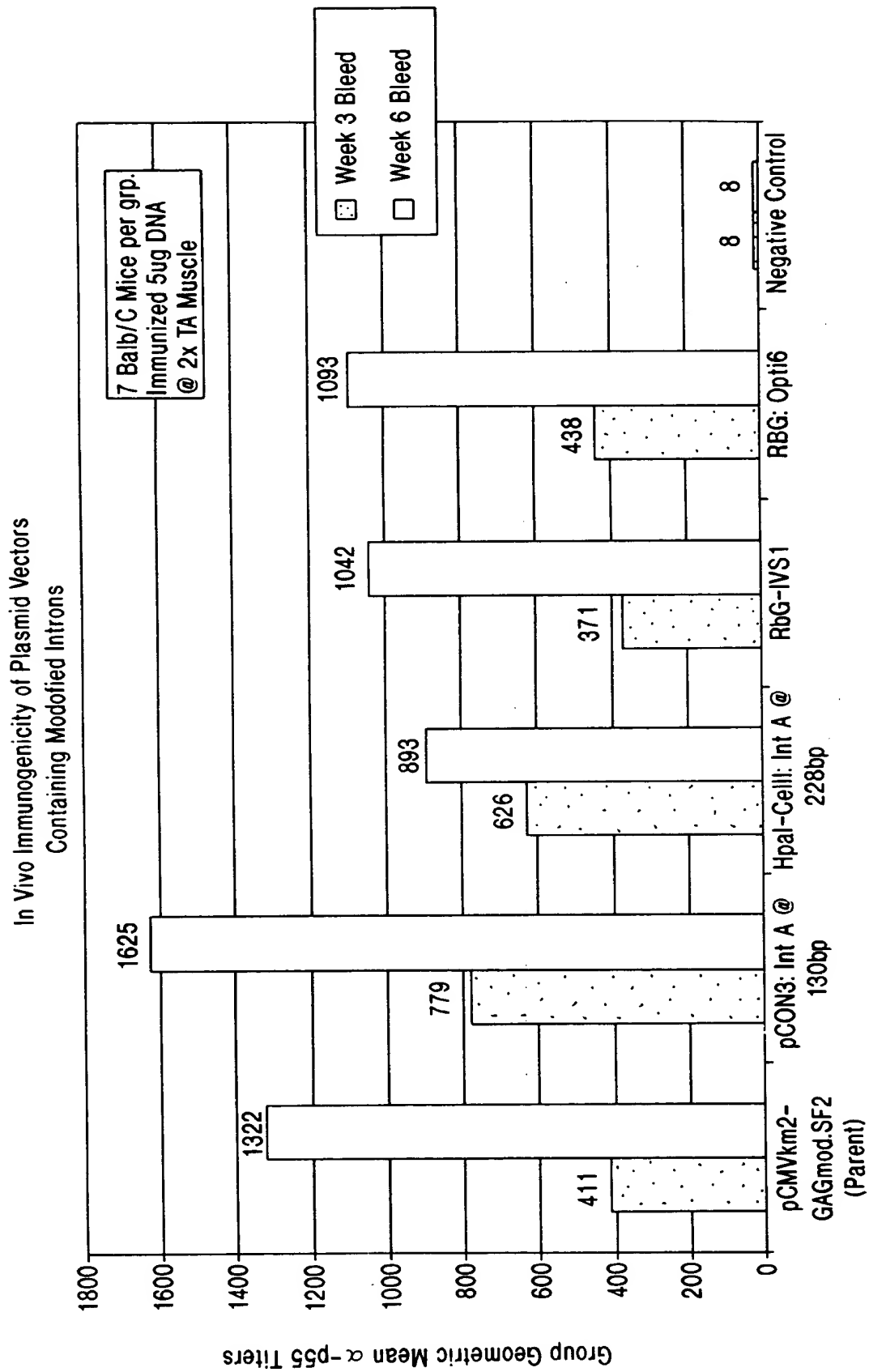


FIG. 7